Evaluating expression of miR-100 in peripheral blood mononuclear cells of esophageal cancer patients and normal controls

Abstract:

Background and Objective: Esophageal Cancer (EC) is one of the most aggressive and lethal cancers worldwide. EC consists of two main pathologic types, namely esophageal squamous cell carcinoma (ESCC) and esophageal adenocarcinoma (ADC). ESCC is the most prevalent form in countries like China and Iran. This study evaluated expression of miR-100 in peripheral blood mononuclear cells of ESCC.

Methods: Blood samples were taken from 40 patients with pathologic diagnosis and 40 healthy subjects without any history of cancer in the family. Then PBMC and RNA were extracted and after the synthesis of CDNA by Stem-loop method, gene expression assay was evaluated using Quantitative Real-Time RT PCR technique. SNORD47 gene (NR_002746) was also used as an internal reference.

Results: Gene expression analysis using Pfaffl method and REST software revealed not significant differences of PBMC miR-100 between patients and controls (p value: 0/342). To best our knowledge this was the first study that examined the level of miR-100 in PBMC of patients with ESCC.

Conclusion: In conclusion, the PBMC expression of miR-100 does not represent a potential biomarker of ESCC.

Keywords: Esophageal Squamous Cell Carcinoma, microRNA, Peripheral Blood Mononuclear Cell